An Interview with a leading HIV Obstetrician/Gynecologists in Houston: Dr. Hunter Hammill

Interviewed by: Shirley Chan and Koya Davis (Interview date: July 9, 2004)

HDHHS: In our surveillance practice we have recognized that on occasion we find a pregnant woman who tests positive for HIV during pregnancy, but sometime after delivery, it is found that the woman is actually not HIV infected. Can you tell us if you have witnessed this in your practice?

HAMMILL: Yes, and if you're talking about false positives, and these usually are false positive ELISA(s) with equivocal Western Blot(s) , I would say that I probably have had a dozen cases in the last 10 years and it seems like they are becoming more frequent. It is a problem particularly because it's during pregnancy. I have had cases where people have had a negative HIV test in their initial prenatal care, and then when they are in labor, a repeat RPR and HIV are done, and that one will come back with a positive ELISA. That causes a lot of difficulties.

HDHHS: Do you have a theory as to why this is occurring? Why does this happen?

HAMMILL: Why it happens, I don't know, I can't answer that. I have talked to CDC ; I have talked to other adult infectious disease people who treat a lot of AIDS patients. Obviously it is some interaction with the proteins in the virus and the way they do the test. I have to confess that I haven't tried to find out if other people, like in males, is there a large series of false positives or if this is just a clustering during pregnancy? We see it more during pregnancy because in pregnancy there is mandated [offering of] testing and there is this time clock.

HDHHS: In the case of these women, how do you make a determination of HIV status? Is there some specific protocol that you follow in order to come up with a final diagnosis?

HAMMILL: What do you do when you're called with a patient who has a false positive ELISA and equivocal Western Blot? What will happen is, maybe you will have bands on the Western Blot that haven't turned yet. So you are in that transition. One thing I recommend is that you test the partner. I had one patient who presented like this and then we tested the partner and the partner was positive; truly HIV positive. That patient subsequently converted to being a true positive. I think if you can test the partner, that's one of the first things to do. The other thing that I recommend, and this is just empiricizing, is to repeat the ELISA and Western Blot and check the blood type of the specimens; just because in any large system, things can be mixed up. If the blood type does not match, then you know it was "a mislabeling problem". Unfortunately I have had more than one case where I have been called to labor because of a positive result. When we repeat the tests and check the blood types, the specimens do not match. But that is sorted out after the baby is delivered. So you can see how this, for me, is a real problem; but getting back to your initial question. If a woman is not in labor, I will repeat the ELISA and Western Blot, I will do a CD4 and viral load ; and if the viral load comes back and it is positive, then you know, she's really positive. Now, the other problem is this "window of transition" . They always say six weeks, but there's a "window" where not all of the bands on the Western Blot have turned, but the patient may be positive. So what I'll do there is I'll order a p24 antigen, not the antibody; because the antigen will be positive early before the antibody is formed. So I order a p24 antigen, I've already ordered the HIV viral load (RNA) and then I get a DNA; because the theory is the DNA may show up a little earlier than the RNA. So I order those tests and we're looking at a week or two turn around for those test results.

HDDHS: When you have women who present at labor and delivery that haven't had prenatal care, an ELISA is done using OraQuick , it may turn up positive, and that may create a problem. What do you do now?

HAMMILL: The first thing to do is talk to the patient. One of the problems is that people will wait for the Western Blot. If it's a vaginal delivery, she's discharged. And I've even had cases where the patient was discharged, the Western Blot came back positive but they hadn't told her, and she had breast fed. (Continued on next page)

Dr. Hunter Hammill interview, continued

I think you have to talk to the patient right away and if possible, get the husband in there. Then you have to say to the patient, "This may be a false positive but to be on the safe side, we're going to give you IV AZT in labor and we're going to give the baby AZT afterwards". Then it gets even more complicated because we will do a battery of tests and ask the woman not to breast feed. I think the key point when someone presents like this is the doctor has to address it. And now with the rapid tests [like OraQuick], we are going to know the results right away; so we may see more cases like this. I would imagine every hospital about every three or four months will have a case just like you described. Now, the other thing that I didn't mention is you also have to use the clinical history. AIDS certainly has changed from twenty years ago where there was a lot of drug abuse. Now we see it across all areas and Houston is a very international city; we have patients from other countries where there are epi-centers of the virus. If you had an IV drug addict who is shutting up and the partners are using drugs and engaging in other types of behavior, that makes me lean a little bit more towards, "Yeah, this is a true positive". I always have to stress that the history is important.

HDHHS: Is this a new phenomenon that we are experiencing? Have you heard of other physicians either locally or nationally witnessing this same thing? Do you know if this is an issue that is being addressed by the Centers for Disease Control and Prevention in terms of how they will or will not modify the way in which providers are to proceed during prenatal testing and diagnosing?

HAMMILL: I haven't called CDC in about a year. Sometimes it will come up in meetings. I don't have any hard numbers, you are my CDC liaison as the city health department, but I think maybe we could give them another call. But certainly this occurs. One of the problems is this is one of those things that is probably not tracked because if they turn out to be false positives, they fall off the curve. They are not confirmed. But it does have a lot of medical legal issues which are a nightmare. If it is a "mislabeling problem", certainly that can trigger some litigation, although that is human error, it does occur. Because then they go through "I have AIDS", "My husband wants to shoot me", people file for divorces immediately, they didn't breast feed their kid, maybe they got a C-section; that whole side of it.

HDHHS: Thank you Dr. Hammill for your time and sharing your experience and expertise with us. We will keep in touch with you on future development on this issue.

Disclaimer: Scenarios detailed in this article are not at all related to any hospitals with which Dr. Hammill is currently associated.

[1]False Positive: A test result that indicates that a person has a condition when in fact he or she does not. [2]HIV Tests - ELISA & Western Blot: http://www.nlm.nih.gov/medlineplus/ency/article/003538.htm [3]RPR test: Rapid plasma reagin, a blood test for syphilis that looks for an antibody that is present in the bloodstream when a patient has syphilis. [4]Centers for Disease Control and Prevention (CDC): www.cdc.gov [5]CD4 Count: The CD4 count tells your doctor how strong your immune system is. HIV infection is only one of many conditions that may lower CD4. If you have been diagnosed with HIV, your doctor will use CD4 to see how far HIV disease has advanced and to help predict the risk of complications and debilitating infections. http://www.labtestsonline.org/understanding/analytes/cd4/test.html [6]HIV Viral Load: A viral load test is ordered when a patient is first diagnosed with HIV. The test result functions as a baseline measurement that shows how actively the virus is reproducing and whether treatment is immediately necessary. http://www.labtestsonline.org/understanding/analytes/viral_load/test.html [7]Window period of approximately six weeks after the initial infection where a person will test HIV negative although he/she is infected with the HIV virus [8]HIV p24 Antigen: p24 testing may be used to detect early HIV infection and to screen donated blood for HIV. http://www.labtestsonline.org/understanding/analytes/p24/test.html [9]HIV Viral Load - RNA: An HIV-positive mother's level of viral RNA is a useful predictor of transmission risk to the unborn child. http://www.accessexcellence.org/WN/SUA01/hivmoms.html [10]OraQuick: OraQuick is a rapid, point-of-care test designed to detect antibodies to HIV-1 in finger stick whole blood and venipuncture whole blood specimen within approximately 20 minutes. http://www.abbottdiagnostics.com/Reagents_Tests/testdetail.cfm?test=oraquick [11]Intravenous (IV): a method of giving medication or fluids directly into the vein. [12]AZT: The first anti-HIV drug approved for use in the United States. http://www.aegis.com/topics/azt.html